

Preface

All earnest and honest human quests for knowledge are efforts to understand Nature, which includes both human and nonhuman systems, the objects of study in science. Thus, broadly speaking, all these quests are in the science domain. The methods and tools used may be different; for example, the literary people use mainly their bodily sensors and their brain as the information processor, while natural scientists may use, in addition, measuring instruments and computers. Yet, all these activities could be viewed in a unified perspective: they are scientific developments at varying stages of maturity and have a lot to learn from each other.

That “everything in Nature is part of science” was well recognized by Aristotle and da Vinci and many others. However, it is only recently, with the advent of modern science and experiences gathered in the study of statistical physics, complex systems and other disciplines, that we know how the human-related disciplines can be studied scientifically.

Science Matters (SciMat or scimat) is about all human-dependent knowledge, wherein, humans (the material system of *Homo sapiens*) are studied scientifically from the perspective of complex systems (see Chapter 1). Here, the term “complex systems” means simply “very complicated systems,” in the sense adopted by common people. SciMat includes all the topics covered in humanities and social sciences—in particular, art, literature, movie, culture, history, philosophy, science communication and the studies of science.

Traditionally, many of these topics are under the name of “science of x” or “science and x,” where x could be culture, art, literature, society, and so on, or even science in the former case. However, x here, from the perspective of SciMat, is already a part of science. These descriptions are thus misleading. For example, by saying “science and culture,” it implies that science and culture are two different things, which could be opposing each other. Instead, they are different aspects of the same thing—the effort to understand Nature and a new term “science matters” is called for.

To advance the idea of SciMat, a new discipline, the First International Conference on Science Matters was held in Ericeira, Portugal, May 28-30, 2007, co-chaired by Maria Burguete and Lui Lam. The intention was to bring together experts from art/humanities and sciences, finding out from each other how each person’s own discipline is done and exchanging ideas. Hopefully, mutual understanding will be achieved and collaboration across disciplines will result, with the aim to raise the scientific level of the disciplines. This is not easy, but the important first step has been taken.

This book contains contributions from invited speakers of this conference, who are asked to expand their lectures for the general readership of all intellectuals. Two additional articles come from experts who are invited by the editors to contribute, after the conference. The articles, ranging from art to philosophy and history to social science and to physics, are loosely grouped under three parts (see Contents).

We are grateful to the contributors for their professionalism and skills in communicating to the non-experts, and the sponsors of the conference: Centro de Estudos Sociais da Universidade Coimbra, Barclays Bank, Fundação Luso-Americana, Fundação para a Ciência e Tecnologia, Fundação Oriente, Fundação Calouste Gulbenkian and British Council. Their combined support makes this book possible.

Rio Maior, Portugal
San Jose, California

Maria Burguete
Lui Lam